TABLES

Table 1-1
Summary of Compliance
May 2005

Extraction Well Network	Compiance Criteria Met (yes/no)	Comments
Flow Rate Performance - Target Extraction Rate		
Newmark North Extraction Well Network	NA	Not applicable until the Muscoy OU is declared Operational and Functional
Newmark Plume Front Extraction Well Network	NA	Not applicable until the Muscoy OU is declared Operational and Functional
Muscoy Plume Extraction Well Network	NA	Not applicable until the Muscoy OU is declared Operational and Functional
Flow Performance - Particle Tracking		
Newmark Plume Front Extraction Well Network	NA	Not applicable until particle tracking methodlogy is established in an approved Operational Sampling and Analysis Plan
Muscoy Plume Extraction Well Network	NA	Not applicable until the Muscoy OU is declared Operational and Functional
Contaminant Performance - Downgradient Monitoring Wells		
Newmark Plume Front Extraction Well Network	NA	The first monitoring well sampling round for evaluating contaminant performance will be conducted in November 2005
Muscoy Plume Extraction Well Network	NA	Not applicable until the Muscoy OU is declared Operational and Functional

Notes:
NA - not applicable (see comment for reason)

Table 2-1
Summary of Newmark OU O&M - Extraction Wells

Reporting Period: **May 1 to May 31, 2005**
System Operation Date: **October 1, 2000**
Operations Completed: **5 years and 8 months**

Newmark North Plant Extraction Well Network (EPA 006, EPA 007, Newmark 3)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	Newmark 3 down on March 25, 2005 due to motor failure. Returned to service May 13, 2005.
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
Maintenance Days Claimed	There is no need to claim maintenance days until the Target Extraction Rate Requirements are in effect. This will occur when the Muscoy OU IRA is declared operational and functional.
Newmark Plume Front Extraction Well Network (EPA 001, EPA 002, EPA 003, EPA 004, EPA 005)	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report), monthly hands on physical, annual oil change, semi-annual check of VFD
Description of Problems Encountered	EPA 003 went down on April 28, 2005 due to a failure of the variable frequency drive (VFD). The VFD was promptly scheduled for repair (repairs completed May 4, 2005).
Description of Process Improvements Implemented	Meter heads replaced on EPA 001, EPA 002, EPA 003, EPA 004 due to failure and calibration problems.
Deviations from the Operational Requirements of the Consent Decree	None
Maintenance Days Claimed	There is no need to claim maintenance days until the Target Extraction Rate Requirements are in effect. This will occur when the Muscoy OU IRA is declared operational and functional.

Table 2-2
Summary of Extraction Well Flow Data
May 2005

Extraction Well[2]	Monthly Extracted Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Cumulative Volume Extracted[1] (acre-ft)	Number of Days in Month =	31
				Monthly Run Time (days)	Monthly Down Time (days)
Newmark North Plant Extraction Well Network					
EPA 006	66.6	486	3,185	22.3	8.7
EPA 007	187.6	1,369	6,533	30.8	0.2
Newmark 3	124.0	905	4,596	30.5	0.5
Network Total	**378.2**	**2,760**	**14,314**		
Newmark Plume Front Extraction Well Network					
EPA 001	200.3	1,462	8,798	30.3	0.7
EPA 002	191.7	1,400	10,026	30.2	0.8
EPA 003	164.5	1,201	11,458	27.4	3.6
EPA 004	179.7	1,312	10,660	31.0	0.0
EPA 005	212.7	1,553	9,511	31.0	0.0
Network Total	**949.0**	**6,926**	**50,454**		

Notes:

Per the terms of the Statement of Work, once Muscoy is declared O&F the City will be required to demonstrate flow compliance with each extraction well networks Target Extraction Rates considering the specified maintenance allowances. At such time the City will provide the supporting calculations in a tabular format.

(1) - Cumulative volume extracted since Newmark OU System Operations Date (October 1, 2000)

(2) - Extraction well names have been modified from what was submitted in the March/April 2005 progress report, and the naming listed in the SOW. This modifiction was performed to be consistent with historical naming conventions within the City's water supply systems and to facilitate proper sorting of data. The naming change is as follows:

Old Name	Modified Name
EW 1	EPA 001
EW 2	EPA 002
EW 3	EPA 003
EW 4	EPA 004
EW 5	EPA 005
EW 6	EPA 006
EW 7	EPA 007

Table 3-1
Summary of Newmark OU O&M - GAC Treatment Plants

Reporting Period: May 1 to May 31, 2005
System Operation Date: October 1, 2000
Operations Completed: 5 years and 8 months

Newmark North GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
17th Street GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None
Waterman GAC Treatment Plant	
Description Routine Maintenance Performed	Daily equipment checks performed (see DHS report)
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 3-2
Summary of Treatment Plant Flow Data and Mass Removal Estimates
May 2005

Treatment Plant	Extraction Wells Treated By Plant	Treated Water Volumes (acre-ft)	Average Monthly Flow Rate (gpm)	Estimated Monthly GAC Mass Removal [1] (lbs)	Estimated Cumulative GAC Mass Removal[2] (lbs)
Newmark North GAC Treatment Plant	EPA 006, EPA 007 and Newmark 3	378.2	2,760	4.1	256.5
17th Street GAC Treatment Plant	EPA 003	164.5	1,201	2.6	177.5
Waterman GAC Treatment Plant [3]	EPA 002, EPA 004 and EPA 005	584.2	4,264	2.4	451.2
Total		**1126.9**	**8225.1**	**9.1**	**885.2**

Notes:

(1) - Monthly mass removal estimates are based on Monthly Treatment Summary sheets documented in monthly DHS reports.

(2) - Cumulative mass removal estimates are for the period since Newmark was declared O&F (October 1, 2000). The historical estimate prior to Consent decree entry is based on a combination of carbon life loading history data and Monthly Treatment Summary spreadsheet.

(3) - Since the beginning of March extracted groundwater from EW-1 has been diverted to the 19th Street Treatment Plant. Therefore, the sum of volume of groundwater extracted from Newmark OU wells is different then the sum of the volume treated by the Newmark OU treatment plants.

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
May 2005

Extraction Well	Date Sampled	PCE Concentration (μg/L)	TCE Concentration (μg/L)
Newmark North GAC Treatment Plant			
Influent	11-May-05	4.4	<0.5
Lead Vessel 1	11-May-05	3.6	<0.5
Lead Vessel 2	11-May-05	1.6	0.9
Lead Vessel 3	11-May-05	4.8	1.0
Lead Vessel 4	11-May-05	3.6	1.0
Lead Vessel 5	11-May-05	3.0	0.9
Lead Vessel 6	11-May-05	3.0	<0.5
Lead Vessel 7	11-May-05	2.2	0.9
Combined Effluent	5-May-05	<0.5	<0.5
	11-May-05	<0.5	<0.5
	19-May-05	<0.5	<0.5
	26-May-05	<0.5	<0.5
17th Street GAC Treatment Plant			
Influent	18-May-05	4.1	1.1
Lead Vessel 1	18-May-05	2.2	1.0
Lead Vessel 2	18-May-05	2.7	1.2
Lead Vessel 3	18-May-05	2.5	1.1
Combined Effluent	5-May-05	2.6	1.5
	11-May-05	2.6	1.2
	19-May-05	2.4	1.1
	26-May-05	<0.5	<0.5

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
May 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Waterman GAC Treatment Plant			
Influent	11-May-05	2.1	0.6
Lead Vessel 1	5-May-05	3.8	1.3
	11-May-05	3.8	1.6
	18-May-05	3.4	1.1
	26-May-05	3.5	1.2
Lead Vessel 2	5-May-05	2.8	1.1
	11-May-05	3.1	1.1
	18-May-05	2.7	1.0
	26-May-05	2.8	1.0
Lead Vessel 3	5-May-05	3.3	1.2
	11-May-05	3.7	1.3
	18-May-05	3.4	1.2
	26-May-05	3.3	1.1
Lead Vessel 4	5-May-05	4.1	1.3
	11-May-05	4.0	1.2
	18-May-05	3.8	1.2
	26-May-05	3.4	1.2
Lead Vessel 5	5-May-05	4.1	1.4
	11-May-05	4.0	1.4
	18-May-05	3.7	1.2
	26-May-05	3.6	1.1

Table 3-3
Treatment Plant Monitoring Results - PCE and TCE
May 2005

Extraction Well	Date Sampled	PCE Concentration (µg/L)	TCE Concentration (µg/L)
Lead Vessel 6	5-May-05	3.9	1.2
	11-May-05	4.1	1.3
	18-May-05	3.7	1.2
	26-May-05	3.8	1.2
Lead Vessel 7	5-May-05	3.9	1.2
	11-May-05	4.1	1.3
	18-May-05	3.7	1.2
	26-May-05	3.8	1.1
Lead Vessel 8	5-May-05	3.9	1.2
	11-May-05	4.0	1.3
	18-May-05	3.8	1.1
	26-May-05	3.6	1.1
Combined Effluent(1)	5-May-05	0.5	1.1
	11-May-05	0.5	1.0
	18-May-05	0.6	1.1
	26-May-05	0.8	1.1

Notes:

These data have been collected and validated using standard SBMWD protocol as required under SBMWDs DHS Permit. Once the project QA/QC Plan has been prepared and approved, SBMWD will adhere to the QA/QC plan when sampling the extraction wells and validating laboratory data.

(1) - Although the combined effluent concentrations are above the detection limit of 0.5 mg/L, samples collected from the adjacent reservoirs supplied by the treatment plant are the ultimate point of compliance for the DHS permit and are non-detect.
NM - Not monitored during the reporting period

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: **May 1 to May 31, 2005**
System Operation Date: **October 1, 2000**
Operations Completed: **5 years and 8 months**

Newmark and Muscoy OU Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Periodic checks of telemetry systems. Continued the modification of RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing
Description of Problems Encountered	Some of the radio transmission units (RTUs) failed during the reporting period. In addition, some of the RTUs failed to collect reliable data. The problem was mainly confined to the Kingfisher LP1 model RTUs. The extent of lost/compromised data is under evaluation. A full report of the problem and solution will be provided as part of the Second Quarter 2005 water level monitoring reporting that will be included in the June 2005 progress report. Discrepancies in hand water level data and transducers/RTU programming problem was noted to be the cause of these discrepancies and has been resolved. Transducer elevation offsets have been corrected accordingly.
Description of Process Improvements Implemented	Replacement RTUs were installed (Kingfisher PC 9100) to address the reliability issues of the problematic LP1 RTUs.
Deviations from the Operational Requirements of the Consent Decree	Due to equipment failures, water level data was not reliably collected on a daily basis. Measures have since been set in place to alleviate this deviation.
Newmark and Muscoy OU Extraction Wells	
Description Routine Monitoring and Maintenance Performed	Periodic checks of telemetry systems. Collected manual water levels from within extraction well casings. Continued the modification of RTU programming to address data acquisition issues and in preparation for the Muscoy OU IRA startup testing
Description of Problems Encountered	Discrepancies in hand water level data and transducer/RTU based elevations were noted in several wells during the reporting period. An RTU programming problem was noted to be the cause of these discrepancies and has been resolved. Transducer elevation offsets have been corrected accordingly.
Description of Process Improvements Implemented	Modifications to the RTU programming were evaluated/implemented.
Deviations from the Operational Requirements of the Consent Decree	Due to equipment failures, water level data was not reliably collected on a daily basis. Measures have since been set in place to alleviate this deviation.

Table 4-1
Summary of Newmark OU O&M - Water Level Monitoring

Reporting Period: **May 1 to May 31, 2005**
System Operation Date: **October 1, 2000**
Operations Completed: **5 years and 8 months**

Site-Wide Monitoring Wells	
Description Routine Monitoring and Maintenance Performed	Collected monthly manual water level measurements on May 25, 2005.
Description of Problems Encountered	None
Description of Process Improvements Implemented	None
Deviations from the Operational Requirements of the Consent Decree	None

Table 6-1
Schedule of Upcoming O&M, Monitoring and Reporting Events
Planning Period: June/July 2005

Task/Item	Planned Event
Newmark OU Extraction Wells	
Pump/Well Maintenance	Pumping equipment change out EPA 003 - anticipated October 2005
Electrical/Controller Maintenance	Routine
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability, changing radio frequency.
Extraction Well Monitoring	Collect well head water samples in July. Download water level data and check RTU offsets.
Other	None
Newmark OU Treatment Plants	
Carbon Change outs	Waterman GAC Plant changeout - anticipated June, 2005
Electrical/Controller Maintenance	None
SCADA System and RTU System Maintenance	None
Treatment System Monitoring	Routine treatment plant sampling
Other	None
Monitoring Wells	
SCADA System and RTU System Maintenance	Continued work on RTU - SCADA communications and system reliability
Water Level Monitoring - SCADA Wells	Regularly download water level data and check elevation offsets
Water Level Monitoring - Site-Wide Well	Collect monthly manual water levels
Monitoring Well sampling	No sampling scheduled for SBMWD. EPA/URS sampling will be performed in support of Muscoy OU one-year perfromance evaluation
Other	None
Project Documents	
Progress Report - June 2005	Scheduled to be submitted July 30, 2005. Will include Second Quarter 2005 water level data reporting.
QA/QC Plan	A written request for an extension of the submittal date to September 21, 2005 was sent to EPA/DTSC on June 15, 2005.
Community Relations	
Fact Sheets	None planned
Community Meetings	None planned

Table 6-2
Submittal of Deliverables/Documents For 2005

Deliverable	Date Submitted	Status
Groundwater Modeling Work Plan	April 15, 2005	Approved by EPA in Correspondence Dated May 26, 2005
Transmittal of Treatment Plant and Extraction Well Flow Data - March/April 2005	May 31, 2005	Submitted to EPA and DTSC.
Progress Report - March/April 2005	June 14, 2005	Submitted to EPA and DTSC. This is the first monthly progress report submitted. Review and comment pending.
Letter requesting an extension for QA/QC Plan Submittal	June 15, 2005	Currently negotiating the terms of the extension with EPA. QA/QC Plan due date suspended during this time.
Health and Saftey Plan	June 17, 2005	Submitted to EPA and DTSC.
Operations and Maintenance Plan	June 17, 2005	Submitted to EPA and DTSC.
Time Line and Schedule	June 21, 2005	Submitted to EPA and DTSC.
Staffing Plan	June 21, 2005	Submitted to EPA and DTSC.

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
May 2005

Modeling Component	Progress Summary
Activities Conducted During The Reporting Period	
Data Compilation	1) Requested data from Lockheed Martin 2) Requested received and catalogued data from Santa Ana watershed from Steve Mains (Watermaster Support Services) 3) Continued work on cataloguing data received in EQuIS data base from San Bernardino Valley Municipal Water District 4) Finalized and distributed the meeting minutes from the first TAC meeting 5) Catalogued received boring logs, geophysical logs, well construction logs, water level records, and water production records 6) Received well data and relevant hydrologic reports from GEOSCIENCE 6) Received production data from City of Riverside and Riverside Highlands Water Company 7) Received well data and lithologic data from City of Riverside and East Valley Water District
Conceptual Model Development	1) Refine the crystalline bedrock topography conceptualization by incorporating gravity data and comparing the divergence with outcrop and well data 2) Refined the chyrstalline bedrock surface by identifying well that were constructed to depth but did not encounter chrystalline bedrock 3) Imported and evaluated approach, data coverage and results of the URS 3D lithology model 4) Developed an approach to characterize lithology type and import into 3d lithology model 5) Reviewed and integrated fault maps from available published sources 6) Continued development of 3D lithologic model evaluating geostatistical packages, performing quality control checks and updating with additional data
Model Construction	1) Rediscretize USGS model to 102 x 102 foot cell size 2) Evaluated memory requirements and simulation times for both 100 time steps and 20 time steps 3) Compare rediscretized model with water budget and heads generated from USGS model 4) Imported layer elevations developed by GEOSCIENCE for a two layer transport version of the USGS model into Preprocessor for evaluation with developed bedrock surfaces 3D lithology model 5) Developed an approach to cooperatively work with GEOSCIENCE to rediscretize the model
Meetings	1) May 11, 2004 9:30 AM, GEOSCIENCE, Upland, CA. NGFM Working Group Meeting 2) May 14, 2004 1:00 PM, Wildermuth Environmental Inc., Lake Forest, CA. Informational Meeting and Data Request 3) May 26, 2004 9:30 AM, GEOSCIENCE, Upland, CA. NGFM Working Group Meeting

Table 6-3
Summary of Newmark Groundwater Flow Model Construction Activities
May 2005

Modeling Component	Progress Summary
Activities Planned/Conducted in June and July	
Data Compilation	1) Continue to catalogue data received to date 2) Followup on previous requests for data that have not been fulfilled 3) Request and compile production data and specific capacity data to fill data gaps
Conceptual Model Development	1) Refine 3D lithology model 2) Develop groundwater flow model boundaries 3) Meet with Wes Danskin and John Matty (USGS) to identify pertinent flow barriers (faults) within model domain 4) Present results and approach to TAC 5) Document conceptual model results and approach
Model Construction	Continue to methodically refine model as follows: a) USGS model with cell size 102x102 ft (with HFB and STR Packages) b) USGS model with cell size 102x102 ft and refinement of HFB and STR Packages c) Cell size 102x102 ft with refinements of Well Package d) Cell size 102x102 ft with hydraulic conductivity and thickness e) Five layers with uniform properties and new basement f) Five layers with new interpretation of Muscoy and Newmark areas
Model Calibration	Calibration will continue with evaluating each of the above described runs with the USGS model for calibration of water balance and head values
Meetings	1) Meet with Richard Coffman of DTSC June 20, 2005 2) Working Group Meeting June 21, 2005 3) TAC Meeting June 23, 2005 4) TAC Meeting scheduled for July 28, 2005

Note:
The Newmark Groundwater Flow Model is being co-developed with the Regional Basin Flow Model. As such, the City of San Bernardino Water Department's consultant (SECOR) is working jointly with San Bernardino Valley Municipal Water District's consultant (GEOSCIENCE) to fulfill both parties modeling objectives. This Table provides a summary of the activities performed and activities planned in support of this joint venture.